

Biomedical Librarians in a Patient Care Setting at the University of Missouri-Kansas City School of Medicine*†

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ABSTRACT

The biomedical librarian has been placed in a patient care setting working in the specific environment of a six-year medical school guided by the docent team concept (docent is defined as a clinician-scholar). Within this framework the specifically qualified Clinical Medical Librarians function within the docent unit. Three dissemination techniques or systems—LATCH, *Current References*, and Latest Topics—are discussed. Note is made of the Clinical Medical Librarian's role in teaching, demand search—document delivery in answer to anticipated and actual requests, and the design of the Patient Care Information System. Also presented are the unique aspects of a hospitable environment essential to the success of this project.

AS stated in a grant application submitted to the National Library of Medicine, the University of Missouri-Kansas City (UMKC) School of Medicine,

requests funds to plan and evaluate a program to meet the biomedical communication needs of medical students, house officers, physicians, and health care team members in a representative general hospital.

Three Science Information Specialists will serve as members of each of three patient care and docent teams on the general medicine service for the Kansas City General Hospital and Medical Center. These specialists will perform the following functions: (1) observe and describe the biomedical information needs of the health care team members, (2) identify the characteristics of the supporting medical literatures and (3) develop the directions for the feasible organization of a retrieval system.

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The biomedical librarians were identified in the grant application as Science Information Specialists. The title was later changed to that of Clinical Medical Librarians (CML) which more clearly indicates their profession and its environment.

The positions for the three Clinical Medical Librarians were filled according to qualifications such as: (1) library science degree and (2) training and/or education in the field of medical librarianship. The three CMLs graduated from library schools specializing in the health sciences. Two of the CMLs graduated from the University of Missouri-Columbia, School of Library and Information Science, Health Science Library Training Program, and one had postgraduate training for science librarians at the University of Tennessee. The first CML joined the UMKC Medical Library in September 1971, and the other two joined the staff in late August 1972.

In order to understand the hospitable environment in which the CMLs are placed, it is necessary to present briefly some of the aspects of the Academic Plan for the UMKC School of Medicine and to explain the terms docent and docent team. These terms elicit many requests for explanation. A docent is defined as a university scholar whose first responsibility is to the education of students in his area. A docent team consists of the senior docent, three docents, visiting docents, sabbatical leave physicians, residents, interns, nurses, pharmacists, ancillary personnel, and the team of students. The total number of people on the team is approximately seventy-two with an additional number from the nursing staff and the outpatient staff. This number may seem to be

overwhelming, but the team is designed to serve a twenty-two bed inpatient unit and 15,000-20,000 outpatients.

The Academic Plan encompasses a six-year program coordinating two premedical and four medical years. The students thus receive an M.D. and a Bachelor's degree six years after graduating from high school. The first two years are divided three-fourths arts and sciences and one-fourth health science education.

The last four years of the medical school curriculum are based on the general medical service which includes a twelve-week service of daily ward rounds each year with the same docent team as well as rotations in pediatrics, obstetrics-gynecology, surgery, and other specialties. The student also accepts continuing responsibility for patients under the supervision of the docent staff. He must give 25% of his time to continuing his liberal arts education during those four years. The students are evaluated through the use of the Quarterly Profile Examination.

In the early stages of the program, the first Clinical Medical Librarian worked closely with the Docent Units but generally from within the library. As the program progressed, the CMLs attended teaching rounds regularly, viewed information needs, answered direct and anticipated questions, and organized several smaller information-dissemination units which aided users regularly. By actually participating in the discussion, seeing the patient, and being able to consult the patient's chart, the CML is able to identify the information needs of the docent team and to fulfill them.

At the present time there are three docent units, each with a CML. A fourth docent unit is planned to begin operation in June 1974. We plan to hire a fourth CML for the new docent unit.

Three information techniques have evolved, one for each CML. Two of these have remained in design as they began, and both are very popular with the docent units to which they are applied. LATCH (*L*iterature *A*Ttached to the *C*Hart) is a problem-oriented system. It depends on the presence of the CML at house staff rounds each morning. The CML searches for and analyzes documents for inclusion in a folder giving medical information pertinent to that patient. Bibliographies citing references to additional information are included for those

team members who wish to study the disease or technique in greater depth. All team members profit from this system.

The second information dissemination technique is a weekly publication, *Current References*, which consists of an editorial and a selection of abstracts representing thoughtful selection of key articles pertinent to problems discussed on the rounds of a second docent unit. An abstract of a historical article is also included. The CML who created this system has found the publication repeatedly requested by many persons outside his docent unit.

A third CML originally tried using several techniques for his dissemination system. A filing system called Latest Topics is now used by the third docent unit. It consists of a master file essentially generated from demand search-document delivery. The file includes documents retrieved which do not necessarily represent a current patient problem. Latest Topics anticipates user's needs and can effectively produce information for a current or repeated request.

Each of these dissemination systems will be evaluated in the third year. Along with the above mentioned systems, the CMLs regularly accomplish demand search-document delivery, primarily through the use of MEDLINE. Each CML averages about 80-100 searches per month. Their machine time averages 7.2 minutes per search. These MEDLINE bibliographies are analyzed for pertinent references, and often only selected articles and/or citations are given to the user. Users receive results within a maximum of twenty-four hours, but often within an hour or less (see Fig. 1).

The grant also calls for the creation of a retrieval system. The CMLs completed a research design for the Patient Care Information System in January 1974. The results of this system will be evaluated subjectively and statistically by the end of the third grant year. This system has three parts: (1) the transaction, (2) the record of the pertinent documents, and (3) the generation of statistics. The second is an index of those documents retrieved in response to information needs. *MeSH* is used as the indexing thesaurus. Four major hypotheses have been stated. The first three are concerned in general with the effectiveness of the CMLs and with the identity of a core of quality journals:

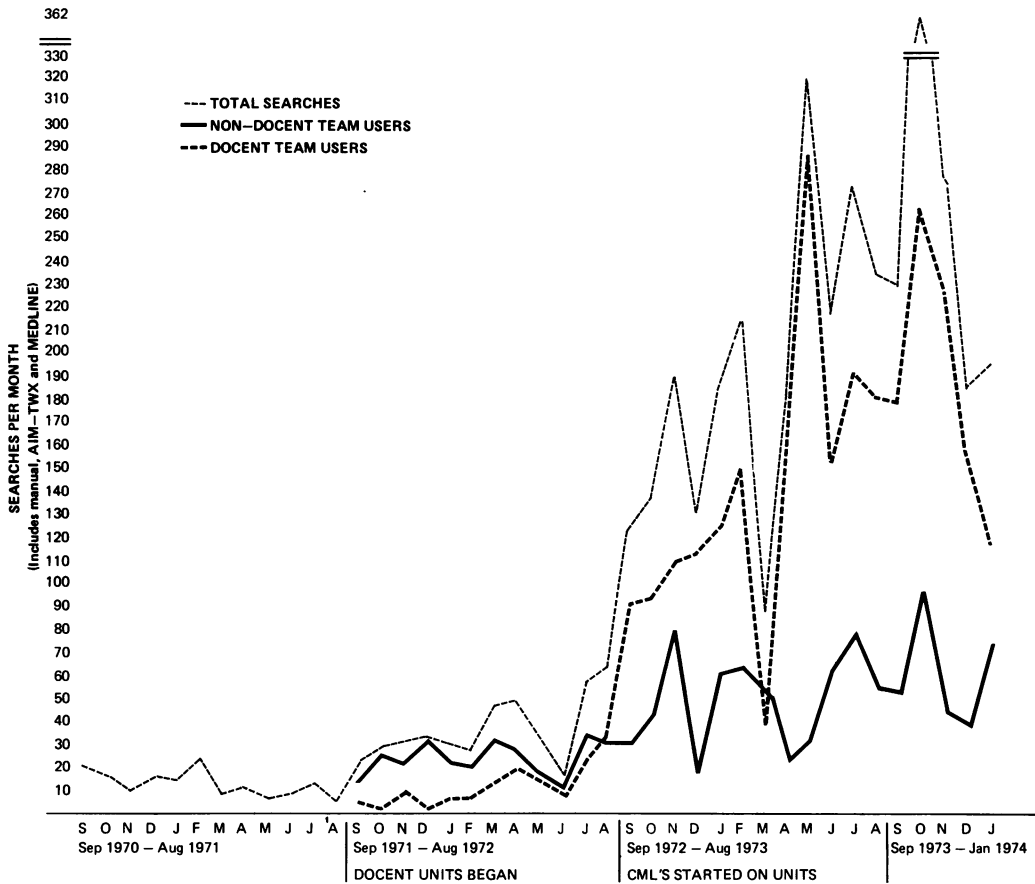


FIG. 1.—Literature searches at UMKC Medical Library.

1. The Clinical Medical Librarian can identify user information needs with 90% or greater accuracy.

2. A high degree of correlation exists between the judgment of the Clinical Medical Librarian and that of the user as to the pertinence of the document(s) retrieved to fulfill the user's information need.

3. There is a limited number of journals which produces most of the documents pertinent to the users' information needs.

a. Pertinent documents appear in a different set of journals for each category of user.

b. Pertinent documents appear in a different set of journals for each category of information need.

The fourth concerns the development of a document citation file.

In addition to the responsibilities previously described, the Clinical Medical Librarians present regular sessions in instruction for the medical students. The Project Director offers additional instruction in access to information. The student is taught a basic approach to library use, given knowledge of medical sources, instructed how to use indices effectively, and given at least the rudiments of more sophisticated searching. To evaluate the teaching sessions, the CMLs have contributed questions on information-retrieval methods to the School of Medicine's Quarterly Profile Examination which is given to all students and staff.

Each CML is bringing many users' requests to the Library, and the Library staff has responded well to the need for a much heavier volume of backup services. Statistics already

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clearly show the impact of the program. Circulation statistics from October 1972 indicate 1991 charge-outs and photocopy. By October 1973, these circulation figures had almost doubled to 3538 charge-outs and photocopy (see Fig. 2). The Library established a method of counting statistics to include both charge-outs and photocopy requests in its statistics.

Search statistics are of interest. In 1970/71, manual searches and a few AIM-TWX searches were accomplished by one support staff member who served as the only reference librarian in addition to handling many other duties. During that period, there were one professional librarian and three library support staff members. One CML was on the staff from September 1971 until the following September, when two more Clinical Medical Librarians were added. During the same time, another professional

librarian, who not only served in acquisitions but also gave part time to reference service, was added to the basic library staff.

During September 1972-August 1973, there were three CMLs, three professional librarians, two of whom were giving half time to reference service, and four support staff members. This basic library staffing has not changed since 1972. The CMLs now have a secretary and a library clerk (see Fig. 3).

Non-docent team users represent all other users; hospital staff, faculty and staff of the medical school, UMKC students and faculty and the Jackson County Medical Society physicians. These represent well over half of circulation statistics. In the past they were the only users of the library.

It is noticeable, of course, that normal expected growth occurred here as the Library became more heavily staffed and as the medical

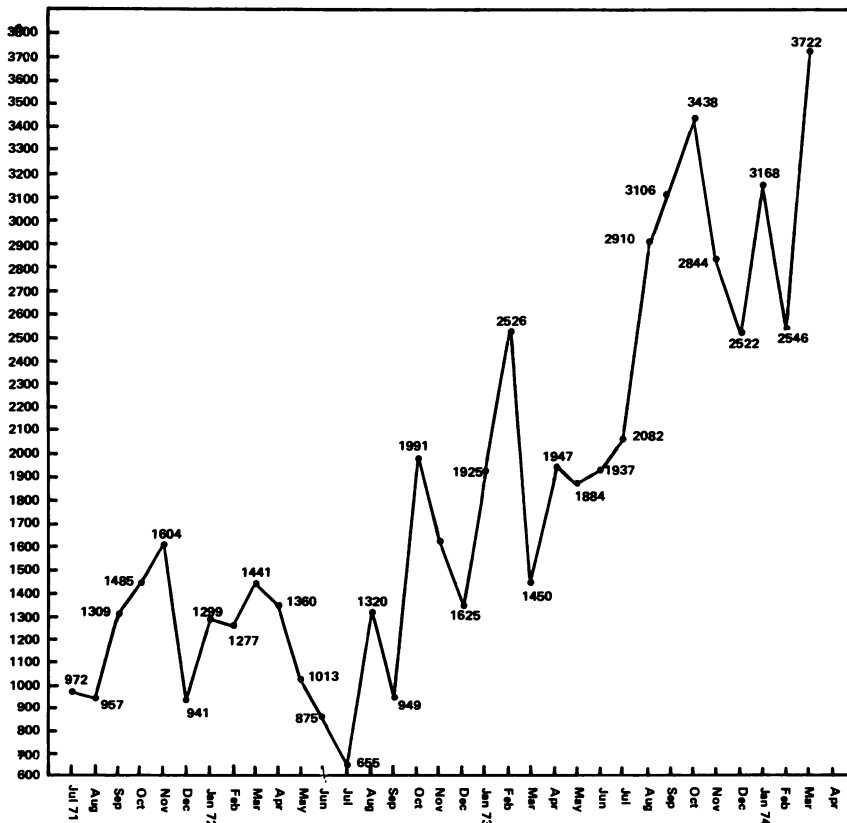


FIG. 2—Circulation statistics—UMKC Medical Library (includes both charges and photocopy).

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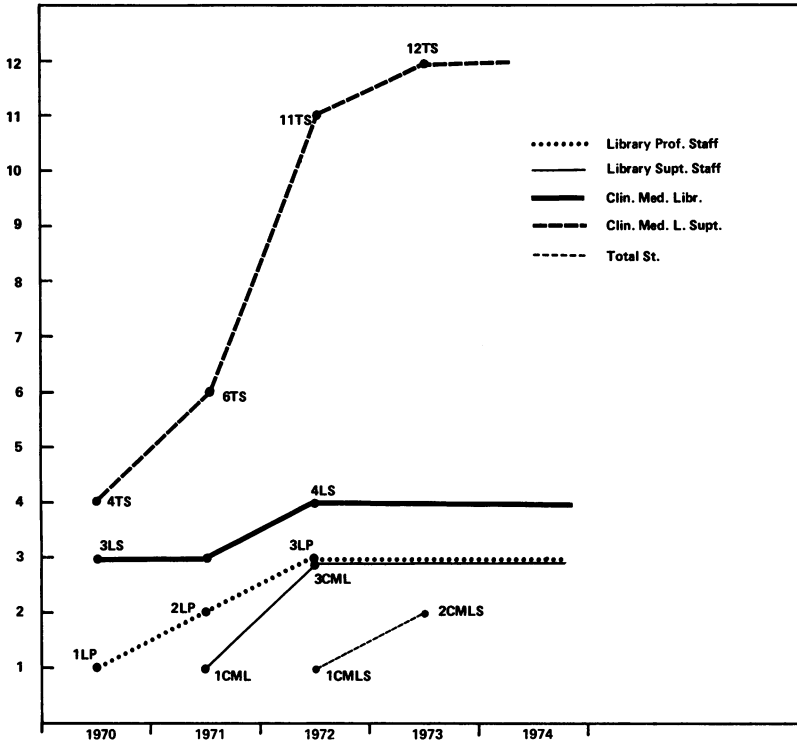


FIG. 3.—UMKC Medical Library staff 1970-74.

school became more evident. The non-docent users are served by the equivalent of a little more than one full-time reference person.

The efficient member of the health care team who has pockets full of articles and a bibliography or two which provide answers to anticipated or actual questions is very much an integral part of the docent team as it makes the daily teaching rounds. Acceptance by team members, circulation and search statistics, intention of continuing the program as well as verbal testimonies indicate a highly positive response to the program.

The third year will generate evaluation statistics which we anticipate will substantiate the impact of the CMLs as essential members of the health care team.

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